

AMENDMENTS TO THE CLAIMS:

The listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF THE CLAIMS

1. (Currently amended) A substantially constant intensity light source₁ comprising:
functional circuitry, said functional circuitry comprising a switching power supply;
at least one signal, said signal a matrix of LEDs connected in series and parallel and
configured for redundancy; and
a monitoring circuit, said monitoring circuit comprises a current sense circuit;
wherein said current sense circuit includes an amplifier and at least one resistor in
series with the amplifier and a power converter circuit, senses a current of a flyback diode,
recovers a dc component of a waveform via a low pass filter, and provides feedback
control of the at least one signal ~~non-linear load~~.
2. (Cancelled)
3. (Currently amended) The light source of claim ~~[[2]]~~ 1, wherein the power converter
circuit includes a current sense transformer.
4. (Currently amended) The light source of claim ~~[[2]]~~ 1, wherein the current sense
circuit further comprises a pole that is independent of pole $C7/R_{load}$ variations.
5. (Currently amended) The light source of claim 4, wherein ~~the current sense circuit~~
~~the~~ voltage ripple across a first capacitor in the amplifier is independent of ~~the a~~ a second
capacitor in ~~[[a]]~~ the power converter circuit.
6. (Currently amended) The light source of claim 5, wherein the second capacitor is
less than 500 μF .
7. (Currently amended) The light source of claim ~~[[5]]~~ 1, wherein the LEDs are

selected from ~~the~~ a group consisting of red LEDs, green LEDs or yellow LEDs.

8. (Currently amended) The light source of claim ~~[[5]]~~ 1, further comprising ~~one~~ a first signal comprising a matrix of red LEDs connected in series and parallel and configured for redundancy, a second signal comprising a matrix of yellow LEDs connected in series and parallel and configured for redundancy, and a third signal comprising a matrix of green LEDs connected in series and parallel and configured for redundancy.

9. (Currently amended) The light source of claim ~~[[5]]~~ 1, wherein the amplifier increases the an output current to compensate for light reduction of LEDs at higher temperatures.

10. (Currently amended) The light source of claim 1, wherein the amplifier comprises a thermistor and at least one resistor having a resistivity that decreases above 25°C.

11. (Currently amended) The light source of claim 1, wherein the an amplifier gain is reduced and the a current across a resistor R_s is increased.

12. (Currently amended) The light source of claim 7, wherein the LEDs are yellow and the amplifier is connected in parallel with a first, a second, a third, a fourth, and a fifth resistor ~~are connected~~, and the first resistor is connected in parallel with the second, the third, the fourth and the fifth resistors, the second, the fourth and the fifth resistors are connected in series, the third resistor is connected in parallel with the second resistor and the a capacitor and a resistor R_s are connected in series with the amplifier.

13. (Currently amended) The light source of claim 7, wherein the LEDs are red and the amplifier is connected in parallel with a first, a second and a third resistor and the first resistor is connected in parallel with the third resistor and in series with the second resistor and the second capacitor and a resistor ~~Resistor~~ R_s are connected in series with the amplifier.

14. (Currently amended) The light source of claim 7, wherein the LEDs are green and the amplifier is connected in parallel with a first, a second, a third, a fourth and a fifth resistor, the first resistor is connected in series with the second and the fourth resistor and in parallel with the third and the fifth resistor and the second capacitor and a resistor Resistor Rs are connected in series with the amplifier.

15. (New) A light signal, comprising:

a LED light source array;

functional circuitry having a switching power supply that generates a controllable DC voltage and a DC current that drives said LED light source array; and

a monitoring circuit having a LED current detector that senses an output current of said LED light source array through a flyback diode and feeds back said sensed output current to said switching power supply, which regulates the DC current provided to said LED light source array to provide a substantially constant light flow.

16. (New) The light signal as set forth in claim 15, wherein said LED light source array is a non-linear load.

17. (New) The light signal as set forth in claim 15, wherein said LED current detector senses a current through a flyback diode and recovers a DC component of a waveform via a low pass filter.

18. (New) The light signal as set forth in claim 15, wherein said LED current detector compensates for light reduction at higher temperatures by increasing the LED light source array driving current.

19. (New) A traffic light signal, comprising:

an LED light source array; and

a LED current detector having an amplifier and at least one resistor in series with the amplifier and a power converter circuit, said LED current detector senses an output current of said LED light source array and provides said sensed output current to a

switching power supply that regulates the current that drives said LED light source array to provide a substantially constant light flow.

20. (New) The traffic light signal as set forth in claim 19, wherein said LED light source array includes at least one of red LEDs, green LEDs and yellow LEDs connected in series and in parallel.

21. (New) The traffic light signal as set forth in claim 19, wherein said switching power supply provides a minimum current to said LED light source.